

1. A universal cartridge for controllable delivery of a dispersant in either an open or a closed fluid system comprising:

5 a housing of a first thickness, said housing having an outer mateable surface, said housing having a chamber therein for carrying a dispensing material, said housing having a set of diffusion ports therein to permit diffusion of a dispensing material from said chamber; and

10 a sleeve, said sleeve having a diffusion port thereon, said sleeve having an inner mateable surface located proximate said housing, said sleeve inner mateable surface and said housing outer mateable surface frictionally engaging each other to form a fluid seal therebetween to limit a diffusion path from a fluid in the chamber to a fluid outside the chamber to a transport area defined by the alignment of the diffusion port in said housing and the diffusion port in said sleeve.

15 2. The universal cartridge of claim 1 wherein the sleeve is rotatable with respect to said housing.

3. The universal cartridge of claim 1 wherein a grid is located in the diffusion port.

20 4. The universal cartridge of claim 3 wherein the grid has a thickness less than said housing.

5. The universal cartridge of claim 3 wherein the grid has an inner surface that extends substantially coplanar with an inner surface of said housing.

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6. The universal cartridge of claim 1 wherein the diffusion port in said housing are located along a surface element in said housing.

7. The universal cartridge of claim 1 wherein the diffusion port in said housing comprises a first and second set of diffusion ports located diametrically opposite from each other.

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8. The universal cartridge of claim 1 including a float to maintain at least part of the universal dispenser in a submerged condition and part of the universal dispenser in an unsubmerged condition.

10 9. The universal cartridge of claim 1 wherein the housing includes a circumferential protrusion and the sleeve includes a circumferential recess with the circumferential protrusion and recess coating to prevent an axial displacement of the housing with respect to the sleeve but to permit at least partial rotation of the sleeve with respect to said housing.

15 10. The universal cartridge of claim 1 wherein universal cartridge includes a lip for securement of the universal cartridge in a fixed position.

11. The universal cartridge of claim 1 wherein the housing and the sleeve comprise a polymer plastic.

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12. The universal cartridge of claim 1 wherein the sleeve diffusion port extends in an axially direction and the housing diffusion port extends in a circumferential direction.

13. The universal cartridge of claim 1 wherein the sleeve has a closed bottom.

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14. The universal cartridge of claim 1 wherein the housing mateable surface and the sleeve mateable surface are in frictional engagement with each other so as to remain in a set

position with respect each other when the universal cartridge is placed in either a stagnant body of fluid or a moving fluid.

15. The universal cartridge of claim 1 wherein the housing comprises a frusto conical
5 shape and the sleeve comprises a frusto conical shape so that a full frictional engagement between the housing and sleeve does not occur until the sleeve and housing are in an axially fixed position with respect to each other.

16. The universal cartridge of claim 1 wherein the housing contains a set of reference
10 setting and the sleeve contains an opening with only one of the set of reference settings is visible therein so as to let a user know a dispersant setting of the universal cartridge.

17. The universal cartridge of claim 1 wherein the housing and the container each have
a taper with the taper of the housing mating with the taper of the container to provide a snug
15 fit therebetween so as to provide a leak resistant boundary.

18. A universal cartridge for controllable delivery of a dispersant in either a stagnant
fluid environment or a moving fluid environment
a housing having an outer surface, said housing having a dispersant chamber
20 therein, said housing having a set of diffusion openings therein to permit diffusion of a dispensing material from said chamber;

a sleeve, said sleeve having a diffusion opening thereon, said sleeve having an
inner surface located proximate said housing, said sleeve inner surface and said housing
outer surface forming a leak-resistant seal therebetween to limit an area of dispersant
25 diffusion from a fluid in the chamber to a fluid outside the chamber to a transport area
formed by an alignment of the diffusion openings in said housing and the diffusion
opening in said sleeve;

a float for supporting said housing in a stagnant fluid environment; and

a lip for supporting said housing in a moving fluid environment to enable the universal cartridge to be used in either the stagnant fluid environment or the moving fluid environment without relying on a direct flow of fluid through the dispersant chamber.

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19. The universal cartridge of claim 18 wherein the diffusion openings in said housing are formed by a grid at least partially recessed in said housing.

20. The universal cartridge of claim 19 wherein the housing and the sleeve are
10 maintained in a rotational engagement with each other through a protrusion on said housing and a partial circumferential slot in said sleeve.

21. The universal cartridge of claim 20 wherein the float has sufficient buoyancy to support the universal cartridge and a dispersant therein in a condition wherein at least a
15 portion of the universal cartridge is visible above a water line.

22. A universal cartridge for controllable delivery of a dispersant in either a stagnant liquid or a moving liquid environment comprising:

a housing having a dispersant holding chamber therein;

20 a dispersant, said dispersant located in said dispersant holding chamber, said dispersant generating a first dispersant concentration in said chamber in the presence of a liquid in said dispersant holding chamber;

a support member on said universal cartridge for maintaining the universal cartridge in a fixed condition proximate a moving liquid stream;

25 a body of liquid located outside said chamber with at least a portion of the body of liquid located within said chamber, said body of liquid comprising a liquid for supporting

transfer of a liquid treatment dispersant from the dispersant holding chamber to the body of liquid located outside said chamber;

a float on said universal cartridge for maintaining the universal cartridge in a partially unsubmerged condition in the body of liquid; and

5 a set ports extending through said housing to form a liquid passage to connect the liquid in the chamber with the body of liquid located outside to enable the dispersant in the chamber to be transferred into the body of liquid located outside the chamber to thereby increase the concentration of dispersant in the body of liquid outside the chamber whether the body of liquid outside of said chamber is stagnant body of liquid or a moving liquid
10 stream.

23. The universal cartridge of claim 22 wherein the body of liquid in the housing is water.

15 24. The universal cartridge of claim 23 wherein the universal cartridge is suspend in a hot tub.